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# SHARE Program

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# SHARE Training Overview

- SHARE Objectives
- Cardiac Arrest Statistics
- Cardiac Arrest Basic Physiology
- First Responder Steps
- Bystander Chest Compressions
- Automated External Defibrillator Use
- SHARE Program Requirements

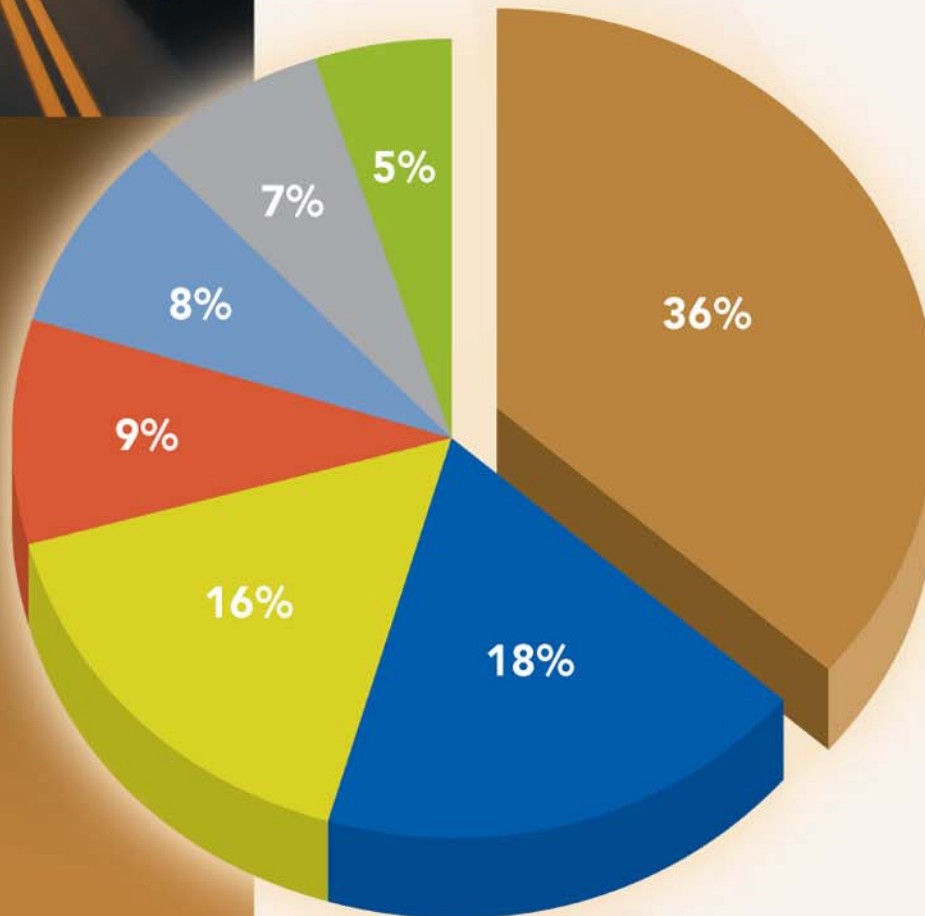


# What is Cardiac Arrest?





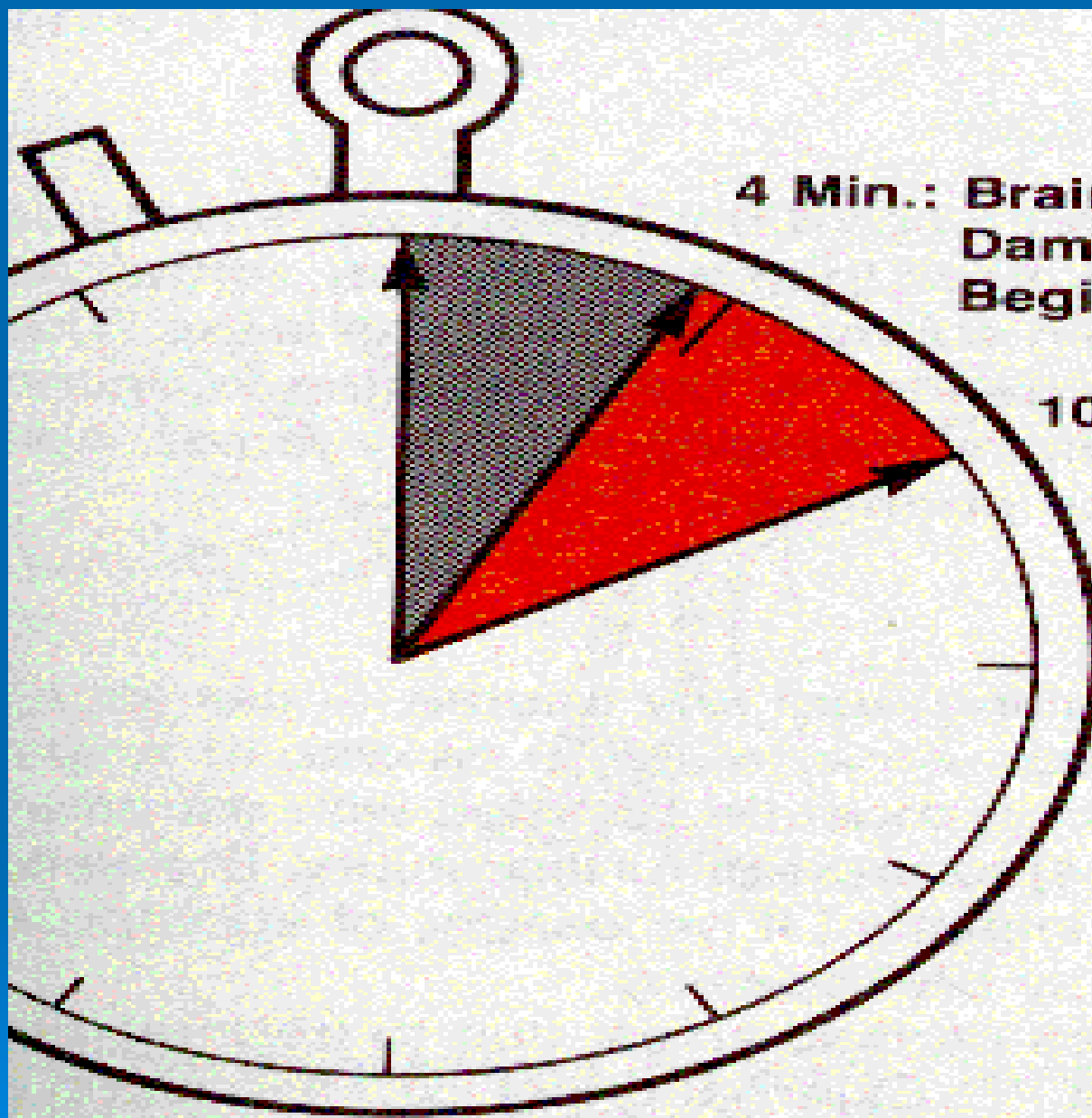
# SUDDEN CARDIAC ARREST (SCA) Is THE #1 CAUSE OF DEATH IN THE U.S.\*



- 465,000 deaths per year
- 2/3 of SCA deaths occur while at home, work or play
- 1/3 occur in hospitals

- Sudden Cardiac Arrest
- Stroke
- Lung Cancer
- Breast Cancer
- Traffic Accidents
- Homicide
- AIDS/HIV

\*Cardiovascular Health Branch, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. Circulation. 2001;104:2158-2163.



**4 Min.: Brain  
Damage  
Begins**

**10 Min.: Brain  
Death  
Certain**

## THE AHA CHAIN OF SURVIVAL



- Early defibrillation is the key link in the chain
- AHA recommends defibrillation within:
  - Five minutes for out-of-hospital response
  - Three minutes for in-hospital response



# What is CCC?

- CCC is a new form of CPR developed through extensive research at UA SHC for use by layperson bystanders.
- CCC means continuous aggressive chest compressions to circulate the victim's blood through their brain and heart.
- No mouth to mouth breaths are necessary





# When is it OK to use CCC?

- CCC is for use on adult (>8) unconscious and unresponsive people.
- CCC is not for drowning, infants/toddlers, drug overdoses and a known respiratory cause of the arrest.



# Why isn't Rescue Breathing necessary?

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## ➤ Cardiac arrest

- Lungs and arteries are full of oxygenated blood
- Key is circulating the oxygenated blood already there
- Victims often gasp which is not normal breathing. They are likely to continue to gasp with CCC, providing the added benefit of better oxygenation



# Shortening the Delay of Defibrillation Delegating Responsibility

Location of out-of-hospital cardiac  
arrest

76 % home

16 % public sites

7 % nursing homes

1 % medical clinics

Becker et al Second Conference of Public Access  
Defibrillation

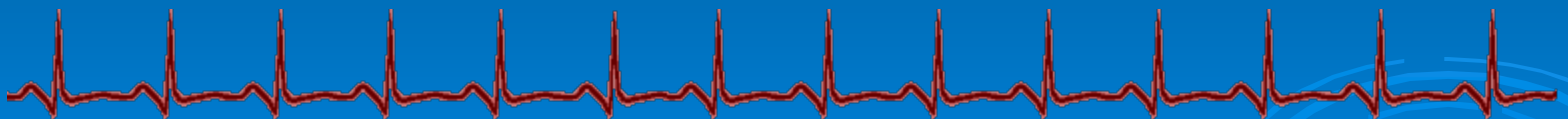
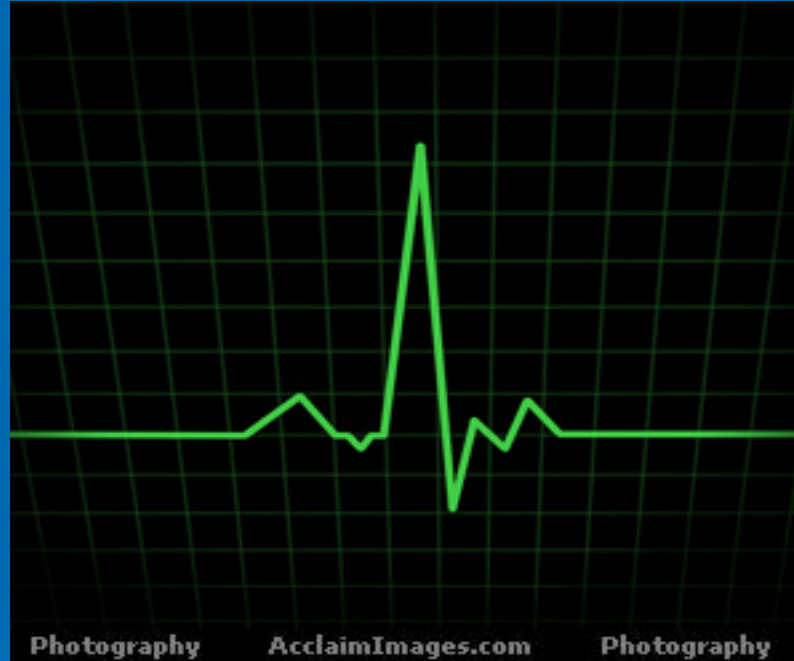


# *The Heart is an Efficient Machine*



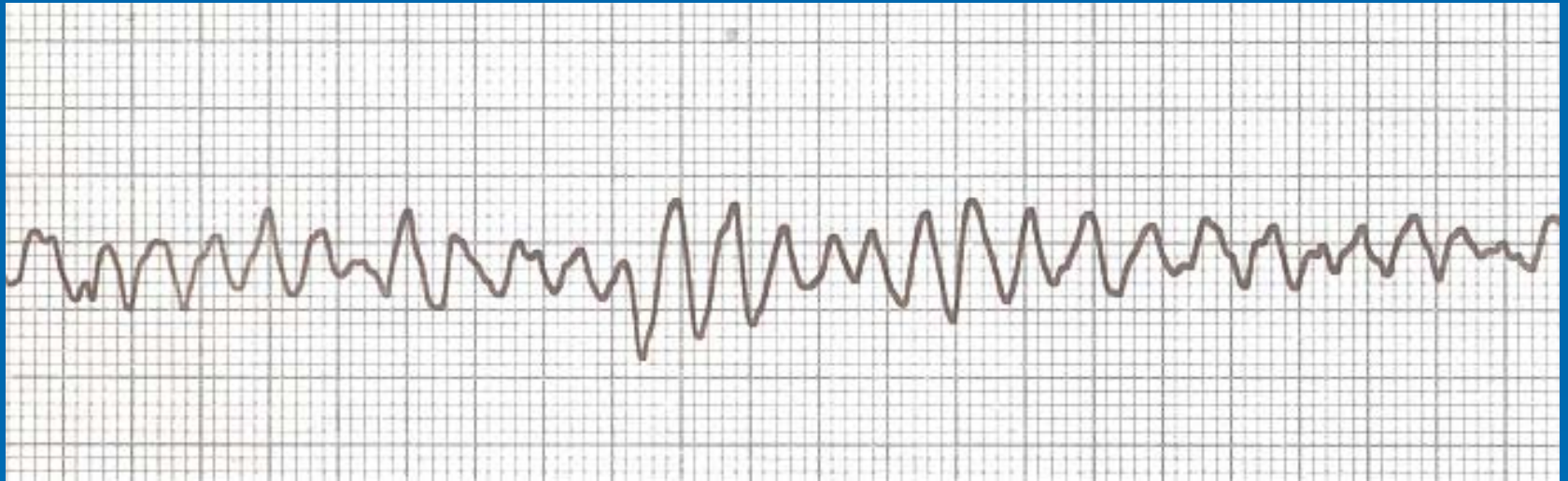


# This is Normal!





# Ventricular Fibrillation



**The Ultimate Medical Emergency**





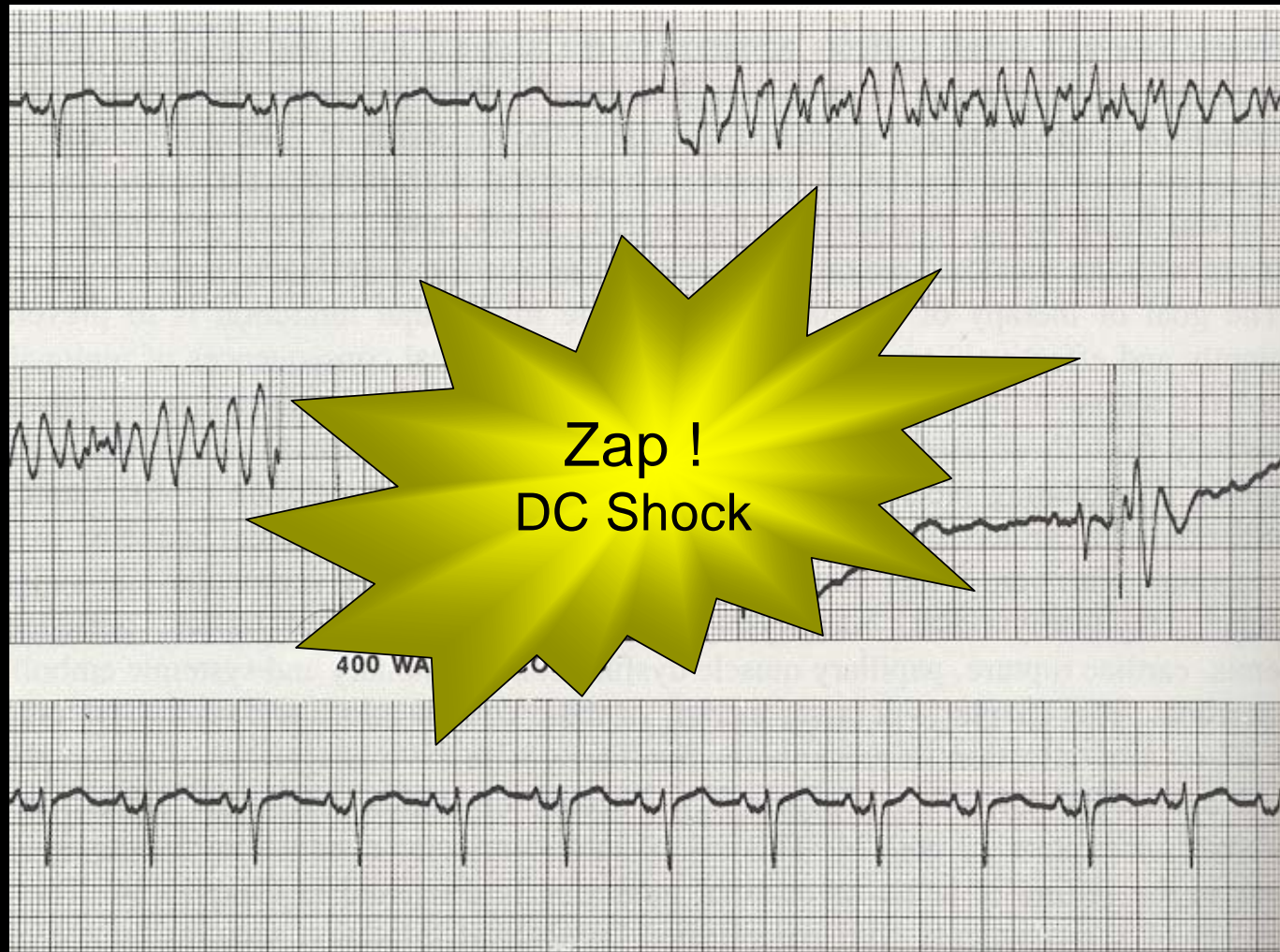
## WHAT IS AN AUTOMATED EXTERNAL DEFIBRILLATOR (AED)?

- A small, battery-operated, portable device that can deliver an electric shock to the heart to restore normal rhythm to a heart attack victim
- Designed to be used by trained lay people
- Uses sophisticated software to recognize the problem, analyze it, and advise treatment
- Safe—will not deliver a defibrillation shock unless victim is in cardiac arrest
- Uses voice and text instructions to walk user through a rescue





# Electrical Defibrillation: The only reliable therapy







Most People will  
**NOT**  
do Mouth to Mouth  
Ventilation



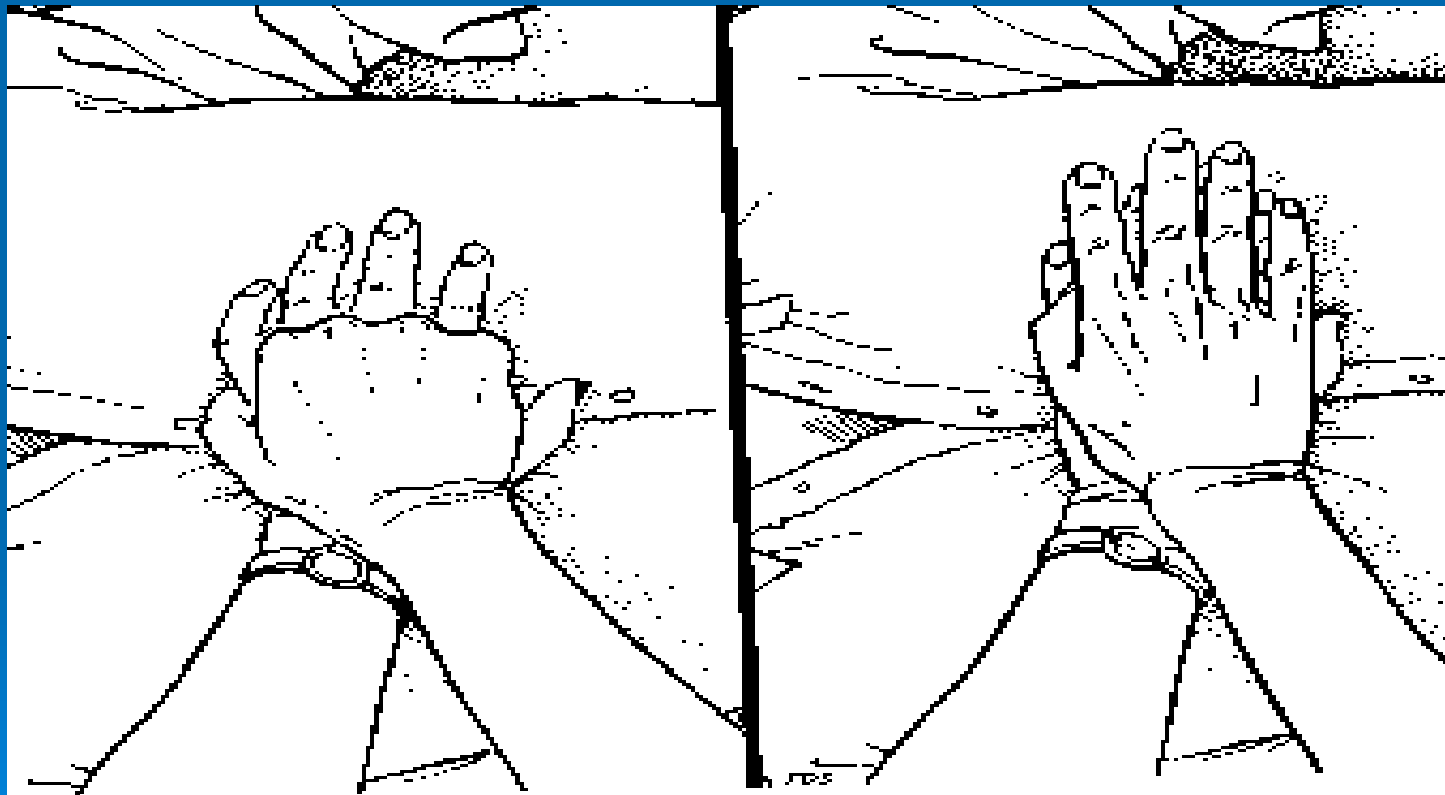
# Bystander Chest Compressions: Amount of Blood Reaching Heart During Chest Compression

Hemodynamics of CPR



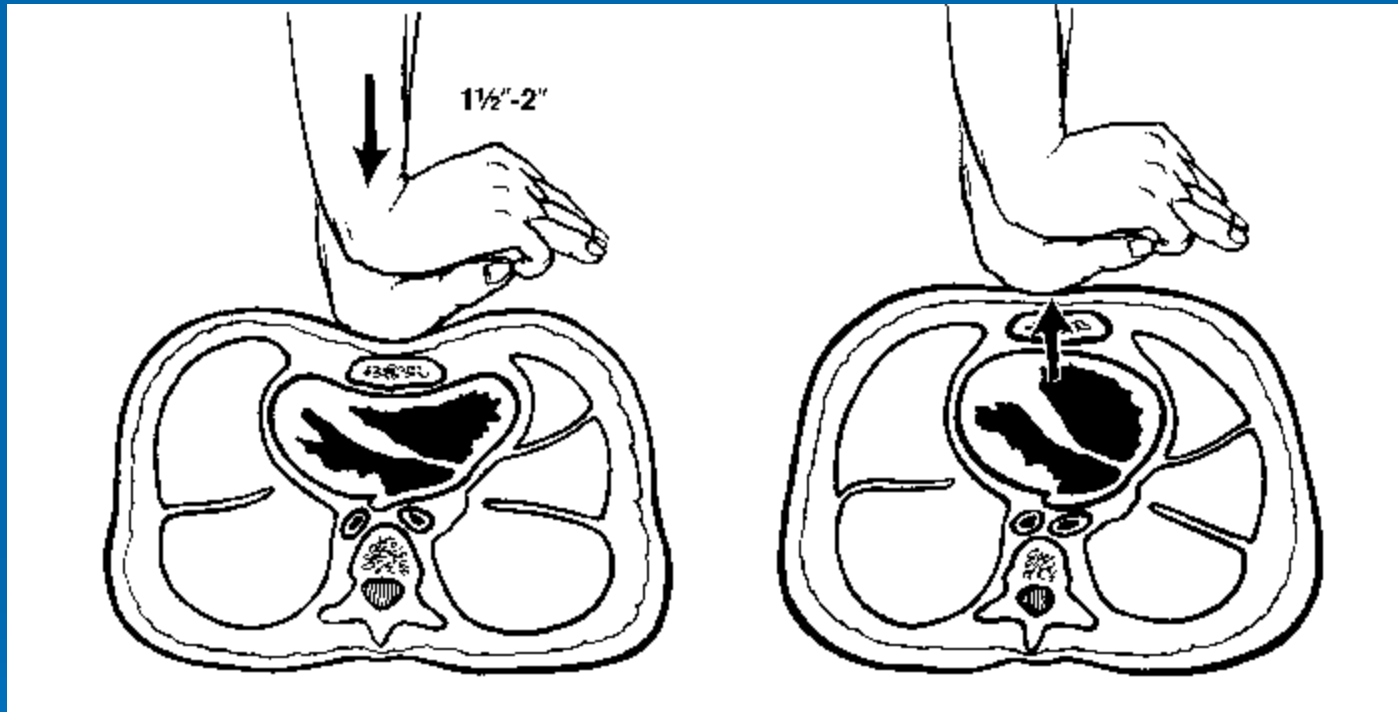


# How do I do CCC?





# How Hard???







# AEDs





# Let's Review:

## *Patient Assessment, CCC and AED*





# Becoming the Universal Symbol







## ***CARDIAC ARREST ALERT AED ON PREMISES***

**IF YOU OBSERVE AN ADULT OR PERSON  $>8$  COLLAPSE OR THEY ARE FOUND UNRESPONSIVE**

- ➔ DIRECT SOMEONE TO **CALL 9-1-1** AND WAIT TO LEAD PARAMEDICS TO THE PATIENT
- ➔ DIRECT SOMEONE TO **GET AN AED**
- ➔ **START FORCEFUL CHEST COMPRESSIONS AT 100 PER MINUTE** IMMEDIATELY AND CONTINUE UNTIL AED OR PARAMEDICS ARRIVE.
- ➔ **ATTACH AED** TO PATIENT AND FOLLOW VERBAL INSTRUCTIONS
- ➔ **CONTINUE** PERFORMING FORCEFUL **CHEST COMPRESSIONS** AND FOLLOWING **AED** INSTRUCTIONS UNTIL ARRIVAL OF PARAMEDICS.